

Materials Engineering and Testing Services

**Source Inspection Quality Management Plan (SIQMP)
Outline**

For Use by Implementing Agencies on the State Highway System



Division of Engineering Services

**Revision Date
04/17/12**

**State of California
Department of Transportation**

Introduction

Policy

Per Caltrans Construction Procedure Directive (CPD) 08-5, and Deputy Directives 23-R1 and 90, when an agency other than Caltrans advertises, awards, and administers a project that is within the Caltrans right-of-way, a Construction Quality Management Plan (QMP) must be submitted by the agency for approval by Caltrans prior to issuance of any encroachment permits. If the implementing agency is providing verification source inspection, CPD 08-5 requires the implementing agency to prepare a separate Source Inspection Quality Management Plan (SIQMP).

Quality is an important element of successful project delivery. Caltrans has developed policies, procedures, and guidelines⁵⁻¹⁰ to facilitate the mandatory compliance with the Federal Highway Administration (FHWA) Title 23 requirements. Within Title 23, the FHWA describes Quality Assurance (QA) of materials for construction projects

The State Materials Engineer must approve the Source Inspection Quality Management Plan (SIQMP) prior to issuance of the encroachment permit for construction. The State Materials Engineer has delegated this authority to the Office of Structural Materials (OSM).

Purpose

This document was created to assist the implementing agency in the development of their SIQMP, as it relates to all materials manufactured or fabricated away from the jobsite. The SIQMP outline provides a template that implementing agencies can use to describe their QA Acceptance Program. This includes verification source inspection and material acceptance activities. This document brings relevant information together from many Caltrans references for the convenience of the implementing agency. The implementing agency should provide a SIQMP approximately equivalent to that of Caltrans⁹. To eliminate any perceived conflict of interest the implementing agency must not delegate verification inspection, sampling and testing responsibilities to the Contractor.

SIQMP Implementation

The implementing agency will submit the SIQMP to the Oversight Structural Materials Representative (OSMR) for the project and include a copy to the Caltrans Project Manager or Oversight Engineer for the project. The following link contains the latest [OSM contact information](http://www.dot.ca.gov/hq/esc/Translab/OSM/smdocuments/StructuralMaterialsRepresentatives.pdf).

(<http://www.dot.ca.gov/hq/esc/Translab/OSM/smdocuments/StructuralMaterialsRepresentatives.pdf>)

The OSMR will review the implementing agency's SIQMP. In order to expedite the review and approval of the SIQMP, OSM will require the most current Plans and Specifications for the project be submitted along with the cooperative agreement. Once approved in writing, the SIQMP will be the guiding document for management of materials that are fabricated or produced outside of the jobsite. An example approval letter is shown in *Appendix 2*.

The Contractor must perform quality control as outlined in the project documents. The implementing agency's QA Acceptance Program consists of acceptance activities, independent of the Contractor, which include:

- Verification of Contractor's QC process
- Verification inspection
- Verification sampling and testing

Caltrans OSM will perform independent quality assurance (IQA) through periodic audits to ensure that the approved acceptance activities outlined in the SIQMP are followed.

OSM will communicate the IQA audit findings through periodic status reports submitted to the Oversight Engineer. These reports are based on an evaluation of the implementing agency's adherence to the SIQMP. They will describe and track any SIQMP deviations. Upon completion of the source inspection activities and resolution of all outstanding IQA findings, OSM will provide a written letter stating that the project is in compliance with the approved SIQMP. See example letter in *Appendix 3*.

SIQMP Outline

It is recommended that the SIQMP be divided into the following three sections:

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Below is a recommended breakdown of each section with example sub-sections to help the implementing agency produce an effective SIQMP. OSM will review the SIQMP, which defines the implementing agency's verification source inspection for compliance with general industry standards and practices.

1. Project General Description

The intent of this section is to provide the project's basic information. This information will provide the foundation for efficient IQA by Caltrans.

- 1.1** Indicate the planned advertise, award, and completion dates
- 1.2** Indicate the Caltrans Standard Plans and Specifications editions to be used
- 1.3** Description of funding source(s) and applicability of Buy America provisions
- 1.4** Provide a copy of the Cooperative Agreement
- 1.5** Provide scope of work to include at a minimum the following:
 - Number and type of structures
 - Engineer's estimate
 - Project Limits
- 1.6** Describe the anticipated phasing, including the timeline for each phase, and main items of work to be completed in each phase of work.

2. Materials Management

The goal of this section is to provide the implementing agency the opportunity and flexibility to describe their materials management process. Some of the typical references are provided in *Appendix 5, References*, for the benefit of the implementing agency.

Source inspection is an integral part of an effective QA Acceptance Program. Verification source inspection helps to ensure that structural materials incorporated into the State Highway System comply with contract requirements with regard to raw materials, fabrication processes, personnel certifications, and in-process QC testing. The purpose of verification source inspection is to:

- Verify that adequate off-site QC is in place
- Perform verification sampling and testing of representative material
- Perform necessary in-process verification inspections
- Perform Non-Destructive Testing at appropriate times
- Mitigate issues before the material is shipped to the jobsite
- Decrease the potential for project delays that verification sampling at the jobsite may cause

A QA Acceptance Program includes an assessment of all materials based on importance. The appropriate level of source inspection is conducted based on this assessment. As an example, materials with a higher consequence of failure may require source inspection 100% of the time

while materials with less risk require less frequent inspection. The goal of this section is for the implementing agency to describe their verification source inspection process.

2.1. Roles and Responsibilities

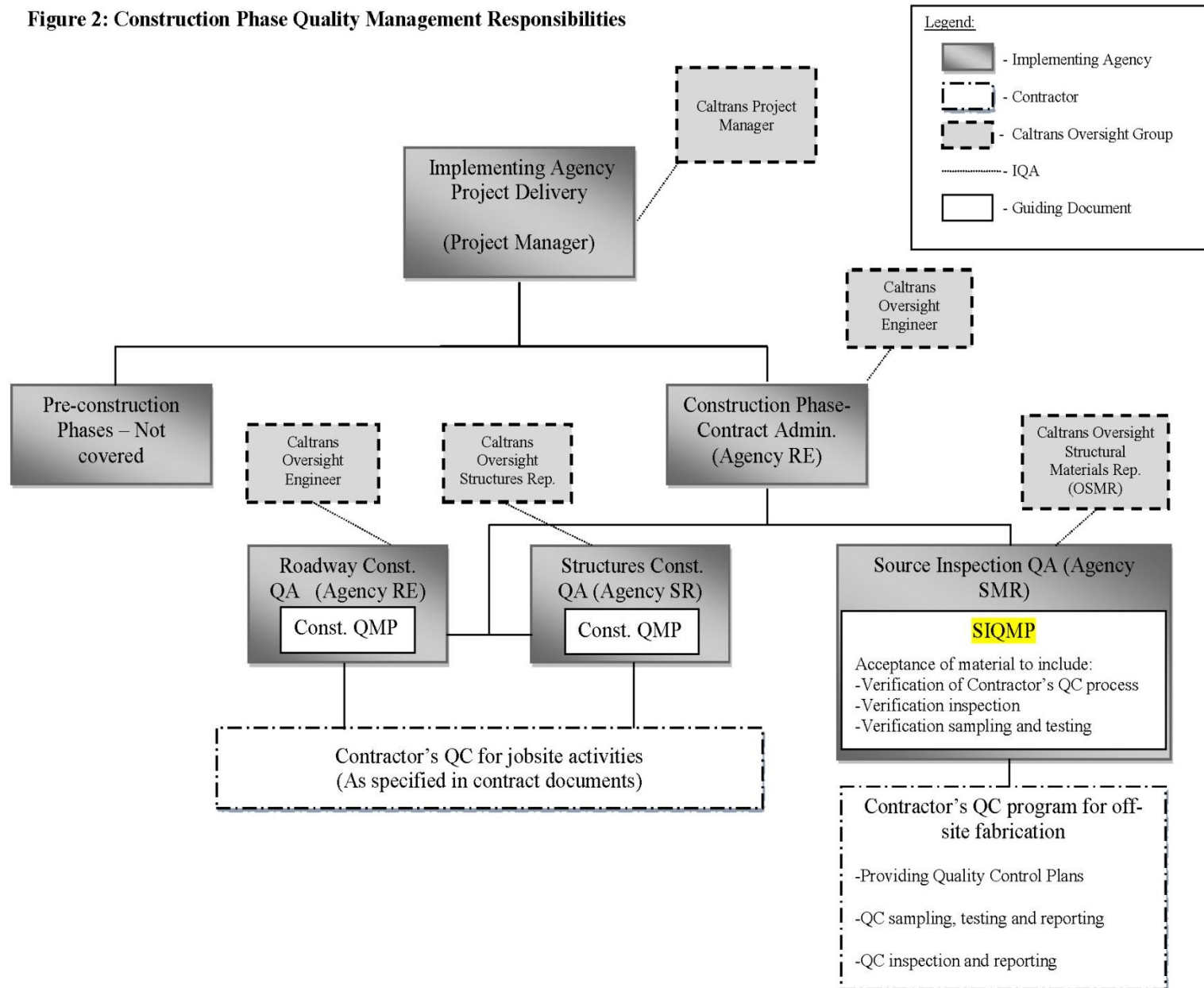
Provide an organizational chart of the key positions to be filled by the implementing agency and Contractor. An acceptable framework is shown on Figure 2. Provide supporting documents with the names, certifications, licenses, and responsibilities for each position. When applicable, the documentation should include:

- i.** Professional Engineer (PE) serving as Agency Resident Engineer or equivalent
- ii.** Agency Assistant Resident Engineers or equivalent
- iii.** PE serving as Agency Structure Representative or equivalent
- iv.** Agency Assistant Structure Representative or equivalent
- v.** PE serving as Agency Structural Materials Representative or equivalent
- vi.** Agency Source Inspectors for Precast Concrete (PE or PCI Level II)
- vii.** Agency Steel Inspectors (CWI)
- viii.** Agency Non-Destructive Steel Inspectors (ASNT TC1A Level II)
- ix.** Agency Coatings Inspectors (NACE certified)

Provide the following information, when available:

- x.** Contractor's Quality Control Manager
- xi.** Contractor's Quality Control Concrete Inspectors (PE or PCI Level II)
- xii.** Contractor's Quality Control Source Steel Inspectors (CWI)
- xiii.** Contractor's Non-Destructive Steel Inspectors (ASNT TC1A Level II)
- xiv.** Contractor's Coatings Inspectors (NACE certified)

Figure 2: Construction Phase Quality Management Responsibilities



2.2. Verification Source Inspection and Documentation

The implementing agency should categorize materials based on the level of importance for their project and should determine the appropriate level of source inspection required.

- 2.2.1** Describe the system used to identify which products will be source inspected by the agency (for example, all structural items categorized as “catastrophic consequences of failure” or “significant safety concerns” should be source inspected by the agency, while less critical items may be source inspected only on a periodic basis or inspected on site).
- 2.2.2** Describe the process by which fabrication facilities or materials are evaluated or pre-qualified for the project. Note: The use of Caltrans approved programs is at the discretion of the implementing agency. The implementing agency assumes all responsibility for material coming from these facilities. Also note that for Caltrans implemented projects additional QA processes are employed at these facilities in order to accept source inspected materials.
- 2.2.3** Provide a complete list of materials in a table with estimated quantities that are used in Caltrans right of way (ROW). For each material indicate whether it is inspected/sampled at the source and/or in the field.
- 2.2.4** For materials inspected/sampled at the source, provide frequency of verification inspection/sampling at the source and general source inspection procedure.
- 2.2.5** Identify any specialty materials for this project (e.g. proprietary systems).
- 2.2.6** Describe any items that are outside of the Caltrans ROW that will meet different criteria than this SIQMP outline and how items in Caltrans ROW will be distinguished and separated.
- 2.2.7** Describe the process by which the Contractor notifies the agency of suppliers/fabricators for each material item that requires source inspection.
- 2.2.8** Documentation: Every inspection must be documented and a report produced. Systematic documentation is a key component of the QA Acceptance Program. Documentation provides necessary information for IQA audits as well as any future audits by FHWA, etc. In order to facilitate these audits, documentation needs to be organized and easily accessible.

2.2.8a Include the following sample forms:

- i.** Verification inspection forms including:
 - Source inspection/material verification
 - Verification sampling of material
 - Precast Reports

- Welding Reports
- Non-Destructive Testing Reports
- Issues/Non-conformance Reports
- Issue/Non-conformance Resolution Reports
- Others as needed

ii. Verification compliance forms and/or material acceptance forms

2.2.8b Describe the procedures for review and distribution of inspection and material release forms

2.2.8c Describe how the implementing agency will perform final materials acceptance and certify that the approved SIQMP procedures were followed during the life of the project

2.2.8d Describe the materials filing system and the physical location it may be reviewed during audits

2.3. Verification Lab Testing and Documentation

A verification sampling and testing program must be established by the implementing agency. In order to avoid an appearance of a conflict of interest, any qualified private laboratory shall perform only one of the following types of testing on the same project: Verification testing, QC testing, or dispute resolution testing.

2.3.1 Describe verification lab qualifications for the applicable materials on this project (e.g. ISO 17025 for steel, and AASHTO Accreditation Program (AAP) for concrete).

2.3.2 Provide a list of verification tests to be performed by the implementing agency along with the frequency and applicable industry standards to be used/specified (ASTM, CTM, etc.). A template for the list is provided in *Appendix 4*.

2.3.3 Describe the verification materials testing filing system and the physical location it may be reviewed during audits.

2.3.4 Provide example forms that will be used for sampling material and reporting test results.

2.3.5 Provide a statement that there are no conflicts of interest regarding the verification lab and any other acceptance activities for the project.

2.4. Contractor Quality Control Plans

Part of an effective QA Acceptance Program is to assure that an effective Contractor QC Program is in place. QC Plans are an important part of a QC Program as they help

to ensure the Contractor is following project requirements with regard to material, fabrication, testing, and inspection practices.

2.4.1. Generate a detailed procedure for implementing agency's review of QC plans including:

- i. Indicate the individual responsible for performing each review
- ii. Documentation of the reviews and addendums (e.g. example forms)
- iii. Filing of the reviews and addendums

2.4.2. For each activity/process listed below, a pre-operation meeting is typically specified in Caltrans specifications to verify the Contractor understands his role in the QC process, the flow of information is understood, and the schedule of activities is determined by:

- Welding and Non-Destructive Testing
- Precasting
- Painting
- Other special operations

For the meetings noted above, please provide the following details:

- Who is required to attend the pre-operation meetings
- Type of meeting (teleconference, in person, video conference, etc.)
- Goal of each type of meeting
- Method of filing the meeting minutes

2.5. Issue Resolution

A thorough QA Acceptance Program includes guidelines for issue resolution. The implementing agency should provide a description of their issue resolution process, how it is concluded, and how it is documented.

2.5.1 Describe the process for issues resolution (such as requests for information (RFIs), nonconformance reports (NCRs), or deviations to the contract related to source inspection) including:

- Procedures for notification to the source, owner's and contractor's inspection staff
- Procedures for documenting decisions

2.5.2 Describe when the unit responsible for verification activities is required to write non-conformance reports (NCRs) to document issues related to:

- Product
- QC Processes

2.5.3 Describe the policy and/or procedures for handling a disagreement between owner's and contractor's inspection staff.

3. Reporting QA Verification Documentation to Caltrans IQA

3.1. Monthly Summary Report

On the 1st of each month the implementing agency must produce a SIQMP Monthly Summary Report that describes the materials acceptance activities performed for that period. The report should be sent to the Oversight Structural Materials Representative (OSMR) for the project. The following link contains the latest [OSM contact information](http://www.dot.ca.gov/hq/esc/Translab/OSM/smdocuments/StructuralMaterialsRepresentatives.pdf).

(<http://www.dot.ca.gov/hq/esc/Translab/OSM/smdocuments/StructuralMaterialsRepresentatives.pdf>)

The report will include at a minimum the following:

- i.** A statement verifying continued compliance with the SIQMP signed by the implementing agency
- ii.** Response to Caltrans IQA audit findings
- iii.** Summary of verification source inspection work completed over the reporting period and summary of work anticipated in the next period
- iv.** Summary of NCRs issued and status of those outstanding
- v.** Summary of any changes to the plans or specifications

During an audit the supporting documentation is to be provided within 10 working days. Examples of supporting documentation include:

- Verification NCRs
- Verification inspection reports
- Material Test Reports (MTRs) by the Contractor
- Certificates of Compliance (COCs) by the Contractor
- Implementing agency submittal review comments for:
 - Contractor-submitted Quality Control plans
 - Structural and fabrication related QC reports

3.2. Final Acceptance Letter

The implementing agency Resident Engineer shall provide a stamped letter for the final materials acceptance and certification stating that the approved SIQMP procedures were followed during the life of the project.

SUMMARY

It is the intent of OSM to assist the implementing agency in adopting a meaningful materials management system that includes inspection, sampling, and testing both by the Contractor through QC and by the implementing agency through verification activities. Cooperation between the implementing agency and Caltrans helps insure materials quality resulting in on time and within budget project delivery. The SIQMP provides a platform for the implementing agency to incorporate effective material management strategies and communicate them to Caltrans

Appendices

Appendix 1: Definitions

Appendix 2: Example SIQMP Approval Letter

Appendix 3: Example Closeout Action Letter Stating the Project is in Compliance with SIQMP

Appendix 4: Template for Materials Verification Testing List

Appendix 5: References

1. Definitions

Contractor - The Prime Contractor, responsible for the construction of the project.

Cooperative Agreement (Co-op) - A formal, legally binding contract between Caltrans and the Implementing Agency. Cooperative agreements outline responsibilities and respective obligations, including cost sharing, of the participants and may address more than just the project construction. Cooperative agreements and maintenance or ownership obligations are required when exchanges of funds or commitments of resources occur. Once signed by an authorized representative of the other party and an attorney representing Caltrans, the agreement becomes legally binding and becomes the highest authority in the hierarchy of contract documents.

CPD 08-5 - Construction Procedure Directive regarding Quality Management Work on State Highway Systems.

Design-Bid-Build - Refers to the standard Caltrans project whereby Caltrans does the design of the project, and the project is awarded to a bidding contractor who will then construct the project.

Design-Build - Refers to a project where the Contractor is responsible for both the design and construction of the project.

Encroachment Permit - A permit issued by Caltrans granting permissive authority to enter the state right-of-way and construct approved facilities. An encroachment permit is an enforceable contract when accepted by the permittee. Acceptance of all terms of the encroachment permit is acknowledged when any act or work specified under the permit is performed. An encroachment permit does not convey a real property right. It authorizes only the permittee or permittee's agent to perform work within the state right-of-way. The permittee may not transfer or assign an encroachment permit to another party. The Implementing Agency and the contractor performing the work require dual permitting. The structure representative obtains copies of encroachment permits from the Implementing Agency project manager or the resident engineer. As part of a cooperative agreement, encroachment permits are typically required as a means to perform construction activities in Caltrans right of way.

Federal-aid Project - Any project that has received any funding from the Federal Highway Administration (FHWA).

Final Acceptance Report – A report produced by the Oversight Resident Engineer for the implementing agency stating acceptable completion of the project. This final acceptance report is based on OSM’s final report recommending acceptance of the project for Structural Material related work.

Highway improvement agreement – Essentially a highway improvement agreement is a cooperative agreement with a private entity. Highway improvement agreements are not covered in this outline.

Implementing agency - The entity charged with the successful completion of each project component, as defined in Government Code Section 14529(b):

- Project initiation document.
- Completion of all permits and environmental studies.
- Preparation of plans, specifications, and estimates.
- The acquisition of right-of-ways, including, but not limited to, support activities.
- Construction, construction management, and engineering including surveys and inspection.

There could be a different implementing agency for each component of a project. To ensure clear lines of responsibility, only one agency can be the implementing agency for a single component.

Independent Assurance (IA) - Management tool that requires a third party, not directly responsible for process control or acceptance, to provide an independent assessment of the product and/or the reliability of test results obtained from the process control and acceptance testing. (The results of IA tests are not to be used as the basis of product acceptance.) This definition differs from that of 23 CFR 637, which defines IA programs as “activities that are an unbiased and independent evaluation of all sampling and testing procedures used in the acceptance program.”

Independent Quality Assurance (IQA) - Activities performed by Caltrans at a project level to ensure that the implementing agency’s quality-assurance activities result in projects being developed in accordance with Caltrans standards, policies, and practices and in accordance with the QMP provided by the implementing agency.

Local Agency - Any public entity such as a federal, state, or regional transportation planning agency, county, city, or other local government unit that sponsors or administers a construction contract on the state highway system. In addition, a private entity that sponsors or administers construction contracts on behalf of an agency on the state highway system, unless otherwise noted, is considered a part of the local agency for the purpose of this guideline.

METS - Caltrans Materials Engineering and Testing Services.

Office of Structural Materials (OSM) – An office within Materials Engineering and Testing Services (METS). The primary objective of OSM is to provide uniform objective quality

assurance evaluations of a large number of structural materials and other products that are a vital part of highways and bridges.

OSM Oversight Activity Report - An intermittent report that communicates OSM's IQA activities, findings, and the status of all issues.

Oversight Engineer (OSE) - A Caltrans employee who performs independent quality assurance of the activities being performed by the resident engineer, the local agency structure representative, and others assigned to a construction project. The Oversight Engineer is the local agency's primary Caltrans contact. The Oversight Engineer assures compliance with applicable state and federal regulations, contract requirements, Caltrans standards and practices, encroachment permit, and cooperative-agreement requirements. For federal-aid projects, the Oversight Engineer performs independent quality assurance of the quality assurance work performed by the local agency for the entire project. For non-federal-aid projects, the Oversight Engineer performs independent quality assurance on only the portion of the project within the existing or future state right-of-way. The Oversight Resident Engineer and Oversight Structure Representative are examples of Oversight Engineers.

Oversight Non-Conformance Report - A report issued by the Oversight RE to the implementing agency that reports deviations from the QMP. A resolution is required to close out the issue.

Oversight Project - Any project with a construction cost within the existing or future state highway right-of-way of \$300,000 or greater where the local agency administers the construction contract. Oversight projects are financed in whole or in part by a local agency. Oversight projects with an estimated construction cost of \$1 million or more are constructed under the terms of a cooperative agreement and encroachment permit. Most oversight projects with an estimated construction cost of less than \$1 million are constructed under the terms of an encroachment permit only. Certain projects such as those involving signal construction, landscaping, or sound walls, may require an agreement.

Oversight Structural Materials Representative (OSMR) - A Caltrans Office of Structural Materials employee who is assigned to assist the OSE with IQA activities.

Oversight Structure Representative - An employee of Caltrans Office of Structures Construction who assists the Oversight Engineer in performing oversight over the implementing agency structure representative's activities relative to structure portions of a project.

Quality Assurance (QA) - Table 1 shows a variety of definitions used for QA. For the purpose of this document the definition provided by the Code of Federal Regulations (23 CFR 637B) is used.

Table 1 — Various Definitions for Quality Assurance and Quality Control

Term	23CFR637B (1995)	Construction Manual Supplement for Local Agency's Resident Engineers (LARE)	ACI (ACI Concrete Terminology, August 2010)
Quality Assurance	All those planned and systematic actions necessary to provide confidence that a product or service will satisfy given requirements for quality.	Activities performed within the implementing agency during the project-delivery process that provides the confidence that the project team is fulfilling established project requirements and expectations.	Actions taken by an organization to provide and document assurance that what is being done and what is being provided are in accordance with the contract documents and standards of good practice for the work.
Quality Control	All contractor/vendor operational techniques and activities that are performed or conducted to fulfill the contract requirements.	Operational processes, practices, and activities performed at the project team level during the project delivery process to ensure that the product meets the project's purpose and need and fulfills established quality requirements.	Actions taken by an organization to provide control and documentation over what is being done and what is being provided so that the applicable standard of good practice and the contract documents for the work are followed.

Quality Assurance Acceptance Program – All factors that comprise the implementing agency's determination of the quality of the product as specified in the contract requirements. These factors include verification sampling, testing, and inspection and may include results of quality control sampling and testing.

Quality Control (QC) - Table 1 shows a variety of definitions used for QC. For the purpose of this document the definition provided by the Code of Federal Regulations (23 CFR 637B) is used.

Quality Management Plan (QMP) - Per CPD 08-5, when an agency other than Caltrans advertises, awards, and administers a project that is within the Caltrans right-of-way, a Quality Management Plan (QMP) must be submitted by the agency for approval by Caltrans prior to issuance of the encroachment permit. If the implementing agency is providing its own source inspection, CPD 08-5 requires the implementing agency to prepare a separate Source Inspection Quality Management Plan (SIQMP). The State Materials Engineer, or authorized delegate (Quality Assurance and Source Inspection Senior), must approve the SIQMP prior to issuance of the encroachment permit for construction.

Resident Engineer - Use in the same context as described within the Construction Manual, except, the resident engineer works for the implementing agency, not Caltrans. Resident engineer performs jobsite verification sampling, testing and inspection of the contractor's QC operations.

Source Inspection Quality Management Plan (SIQMP) – A Quality Management Plan specific to Quality Assurance Source Inspection that is developed by the implementing agency. As stated in Construction Procedure Directive (CPD) 08-5, this document must be approved by the State Materials Engineer before an encroachment permit can be granted.

Verification – Sampling, testing, and inspection performed to validate the quality of the product.

2. Example SIQMP Approval Letter

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
MATERIALS ENGINEERING AND TESTING SERVICES
TRANSPORTATION LABORATORY—MS 5
5900 FOLSOM BOULEVARD, ROOM 101
SACRAMENTO, CA 95819-4612



*Flex your power!
Be energy efficient!*

February 7, 2012

George Washington
Bay Area Rehabilitations Agency
Project EA: 04-123456

Dear Mr. Washington:

On January 17, 2012, The Office of Structural Materials (OSM) received the Bay Area Rehabilitation Agency's Source Inspection Quality Management Plan (SIQMP) associated with the North Bay Rehabilitation Project, 04-123456.

On behalf of the State Materials Engineer per delegated authority, the SIQMP substantially complies with the *Source Inspection Quality Management Plan Outline for Use by Implementing Agencies* and is approved.

It is important to note that the SIQMP acceptance does not relieve the Bay Area Rehabilitation Agency of its obligation to ensure that materials incorporated into the project by the Contractor are in compliance with all contract plans and specifications.

The SIQMP is to be used by the Bay Area Rehabilitation Agency as a guide for verification of work leading to the acceptance of materials at the completion of the project.

Please inform the Oversight Structural Materials Engineer for the project, Sam Adams, of any changes to the start of work date so that OSM may coordinate our auditing activities. He may be reached at (707)123-4567.

Sincerely,

ABRAHAM LINCOLN
Chief, Quality Assurance and Source Inspection Branch, Springfield
Office of Structural Materials
Materials Engineering and Testing Services
Division of Engineering Services

c: District Encroachment Permit Engineer
METS Materials Administrator
DES Chief, Office of Project Delivery

3. Example Closeout Action Letter Stating the Project is in Compliance with SIQMP

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

EDMUND G. BROWN JR., Governor

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
MATERIALS ENGINEERING AND TESTING SERVICES
TRANSPORTATION LABORATORY—MS 5
5900 FOLSOM BOULEVARD, ROOM 101
SACRAMENTO, CA 95819-4612



*Flex your power!
Be energy efficient!*

March 13, 2012

George Washington
Bay Area Rehabilitations Agency
Project EA: 04-123456

Dear Mr. Washington:

Based on auditing activities performed by the Office of Structural Materials (OSM) it appears that the Bay Area Rehabilitations Agency has effectively implemented the Source Inspection Quality Management Plan associated with North Bay Rehabilitation Project, 04-123456 approved on February 1, 2012.

If you have any questions related to this recommendation, please contact the Oversight Structural Materials Engineer for the project, Sam Adams. He may be reached at (707)123-4567.

Sincerely,

ABRAHAM LINCOLN
Chief, Quality Assurance and Source Inspection Branch, Springfield
Office of Structural Materials
Materials Engineering and Testing Services
Division of Engineering Services

c: District Encroachment Permit Engineer
METS Materials Administrator
DES Chief, Office of Project Delivery

"Caltrans improves mobility across California"

4. Template for Materials Verification Testing List

Material	Amount of material to be tested	Samples Taken	Tests performed
1. Prestressing Steel Strand	2 Strand Packs	1	ASTM A370 ASTM E8
2. High Strength Fasteners	Lot size: 281-500 assemblies	5	ANSI/ASME B1.2 ASTM A 370 ASTM B 499 ASTM E 8 ASTM E 10 ASTM E 18 ASTM F 606
3. Mechanical Couplers	Lot size: 150	4	ASTM A 370 ASTM E 8 CT 670
4.			
5.			
6.			
7.			

5. References

1. CFR Title 23
2. Construction Procedure Directive (CPD) 8-5: Quality Management Work on the State Highway System
3. Deputy Directive DD-23-R1, *Roles and Responsibilities for Development of Projects on the State Highway System*
4. Deputy Directive DD-90, *Funding of Quality Management Work on State Highway Projects*
5. Construction Policy Bulletin (CPB) 9-6: Oversight Project Completion Checklist
 - a. CEM-6302 Final Materials Certification
 - b. CEM-6303 Final Acceptance Checklist for Federal-Aid High Profile Projects
6. Construction Manual Supplement for Local Agency Resident Engineers (LARE)
7. Local Assistance Procedures Manual (LAPM)
8. Local Agency Structure Representative Guidelines (LASR)
9. Office of Structural Materials Practices and Procedures (OSMPP)
10. Oversight Field Engineers Guidelines

Some of these documents discuss the option for Caltrans to perform verification source inspection for an outside implementing agency. However, this happens very infrequently and must be established with the Chief of Office of Structural Materials prior to issuing the cooperative agreement.

Below is a summary of the documents and information on how to access them.

1. *CFR Title 23:*

From Title 23 FHWA Subchapter A – General Management and Administration:

“The purpose of the regulations in this part is to implement and carry out the provisions of Federal law relating to the administration of Federal aid for highways.”

This regulation outlines the State Transportation Department’s requirement to develop a QA Acceptance Program which will assure that the materials and workmanship incorporated into each Federal-aid highway construction project on the National Highway System are in conformity with the requirements of the approved plans and specifications, including approved changes.

[CFR Title 23](http://www.dot.ca.gov/hq/esc/Translab/OSM/agencyresources/CFR-2011-title23-vol11-part637.pdf)

(<http://www.dot.ca.gov/hq/esc/Translab/OSM/agencyresources/CFR-2011-title23-vol11-part637.pdf>)

2. *CPD 8-5: Quality Management Work on the State Highway System*

On August 20, 2008, the Construction Procedure Directive (CPD) 08-5 was signed in order to provide guidance for Quality Management Work on the State Highway System.

This CPD states that when a government agency or private entity is the implementing agency (i.e. the entity that advertises, awards, and administers the construction contract), Caltrans performs Independent Quality Assurance (IQA) services to ensure that quality management work is performed by the implementing agency as mandated by FHWA.

The CPD states the implementing agency should prepare and submit a separate source inspection Quality Management Plan. The State Materials Engineer must approve each source inspection quality management plan prior to issuance of the encroachment permit for construction. The State Materials Engineer will ensure that the implementing agency has prepared a quality management plan conforming to Caltrans standards.

[Link to CPDs](http://www.dot.ca.gov/hq/construc/CPDirectives/cpdindex.htm) (<http://www.dot.ca.gov/hq/construc/CPDirectives/cpdindex.htm>)

3. *Deputy Directive 23-R1: Roles and Responsibilities for Development of Projects on the State Highway System*

[Link to DD-23-R1](#)

(http://www.dot.ca.gov/hq/esc/Translab/OSM/agencyresources/DD-23-R1_Project_Sponsor.pdf)

4. *Deputy Directive 90: Funding of Quality Management Work on State Highway Projects*

[Link to DD-90](#)

(<http://admin.dot.ca.gov/bfams/deputydirectives/DD-90%20Signed.pdf>)

5. *CPB 9-6: Oversight Project Completion Checklist*

Per CPB 9-6:

“Caltrans, the local agency, and the contractor review a locally administered state highway construction project before contract acceptance. This review identifies and then allows the contractor to address discrepancies before demobilizing and allows the local agency to avoid remobilization costs.”

[Link to CPBs](#)

(<http://www.dot.ca.gov/hq/construc/manual2001/CPBindex.HTM>)

Link to referenced forms:

[CEM-6302 Final Materials Certification](#)

(<http://www.dot.ca.gov/hq/construc/forms/CEM6302.pdf>)

[CEM-6303 Final Acceptance Checklist for Federal-Aid High Profile Projects](#)

(<http://www.dot.ca.gov/hq/construc/forms/CEM6303.pdf>)

6. *Construction Manual Supplement for Local Agency Resident Engineers (LARE)*

Per LARE:

“The Construction Manual establishes policies and procedures for personnel engaged in contract administration. However, not all policies and procedures in the Construction Manual

are applicable to local agencies or private entities when advertising, awarding, and administering projects. This supplement establishes which sections of the Construction Manual are applicable to local agency and private entity projects.”

[Link to LARE](#)

(<http://www.dot.ca.gov/hq/construc/CPDirectives/LARE.pdf>)

7. *Local Assistance Procedures Manual (LAPM)*

Per LAPM:

“The *Local Assistance Procedures Manual* (LAPM) has been prepared to aid California local agencies scope, organize, design, construct and maintain their public transportation facilities when they seek Federal Highway Administration (FHWA) funded federal-aid or state funding. This manual describes the processes, procedures, documents, authorizations, approvals and certifications, which are required in order to receive federal-aid and/or state funds for many types of local transportation projects.”

[Link to LAPM](#)

(<http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm>)

8. *Local Agency Structure Representatives Guidelines (LASR)*

Per LASR:

“The purpose of this guide is to provide structure representatives with an efficient resource to help them determine their roles and responsibilities in administering structure portions of local agency construction contracts built on state right-of-way.”

[Link to LASR](#)

(http://www.dot.ca.gov/hq/construc/CPDirectives/LASR_Guidelines.pdf)

9. *Office of Structural Materials Practices and Procedures (OSMPP)*

The OSMPP is a manual that details the practices and procedures of the Office of Structural Materials.

[Link to OSMPP](#)

(http://onramp.dot.ca.gov/hq/esc/mets/structure_materials/documents/OSMPP.pdf)

10. *Oversight Field Engineer Guidelines (OFEG)*

These guidelines provide a convenient source of information on policy and procedure, and should be used as a resource for Caltrans employees who provide IQA on projects administered by others on the existing or future state highway system.

[Link to OFEG](#)

(<http://www.dot.ca.gov/hq/construc/oversightengineerfieldguidelines2005.pdf>)